



# FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

## SNAPSHOT: FEED THE FUTURE INNOVATION LABS JANUARY 2015

Feed the Future, the U.S. Government's global hunger and food security initiative, is pairing American ingenuity and expertise with some of the best and brightest minds across the globe through its 24 Feed the Future Innovation Labs. A unique network supported by over 60 top U.S. colleges and universities along with many partner country research and educational institutions, the Feed the Future Innovation Labs are on the cutting edge of efforts to research, develop and take to scale safe and effective technologies that address current and future challenges posed by a changing climate and the need to feed a growing global population. The Feed the Future Innovation Labs also include short- and long-term training to support sustainability of these efforts.

Below is a brief description of the 24 Feed the Future Innovation Labs, with lead university and individual contact information highlighted. For more information on the Feed the Future Innovation Labs, please contact [clevin@usaid.gov](mailto:clevin@usaid.gov) and visit <http://bit.ly/FeedtheFutureInnovationLabs>.

### **Adapting Livestock Systems to Climate Change Innovation Lab**

*Lead University:* **Colorado State University**

This Innovation Lab works to increase resilience and help livestock producers augment their incomes in regions where agricultural systems are changing, available resources are shrinking, and climate is having an impact.

*Focus Countries:* Ethiopia, Kenya, Nepal, Senegal, Tanzania

*Director:* Richard Bowen, [rbowen@rams.colostate.edu](mailto:rbowen@rams.colostate.edu)

*Website:* <http://lcccrsp.org/>

### **Applied Wheat Genomics Innovation Lab**

*Lead University:* **Kansas State University**

This Innovation Lab develops heat-tolerant, high-yielding, farmer-accepted wheat varieties through local characterization and breeding networks, using the most advanced genomic tools.

*Focus Countries:* India, Mexico, Pakistan

*Director:* Jesse Poland, [jpoland@ksu.edu](mailto:jpoland@ksu.edu)

*Website:* [www.k-state.edu/wheat-innovation-lab/](http://www.k-state.edu/wheat-innovation-lab/)

### **Aquaculture & Fisheries Innovation Lab**

*Lead University:* **Oregon State University**

This Innovation Lab develops comprehensive, sustainable, ecologically compatible, and socially viable aquaculture and innovative fisheries management systems that contribute to poverty alleviation and food security.

*Focus Countries:* Bangladesh, Burma, Cambodia, Ghana, Kenya, Nepal, Philippines, Tanzania, Uganda, Vietnam

*Director:* Hillary Egna, [hillary.egna@oregonstate.edu](mailto:hillary.egna@oregonstate.edu)

*Website:* <http://aquafishcrsp.oregonstate.edu/>

### **Assets and Market Access Innovation Lab**

*Lead University:* **University of California, Davis**

This Innovation Lab conducts policy-relevant research on how market function and access promotes (or hinders) asset accumulation, competitiveness and the capacity of smallholder farmers and the rural poor to manage economic and climate-related shocks.

*Focus Countries:* Bangladesh, Burkina Faso, Dominican Republic, Ghana, Haiti, Kenya, Malawi, Mexico, Nepal, Tanzania, Senegal, Uganda

*Director:* Michael Carter, [mrcarter@primal.ucdavis.edu](mailto:mrcarter@primal.ucdavis.edu)

*Website:* <http://basis.ucdavis.edu/>

### **Climate Resilient Beans Innovation Lab**

*Lead University:* **The Pennsylvania State University**

This Innovation Lab integrates new scientific technologies with traditional breeding approaches to develop heat- and drought-tolerant, high-yielding, farmer-accepted bean varieties.

*Focus Countries:* Haiti, Honduras, Malawi, Mozambique, Tanzania, Zambia

*Director:* Jonathan Lynch, [jpl4@psu.edu](mailto:jpl4@psu.edu)

*Website:* <http://plantscience.psu.edu/research/labs/roots/projects/usaidd-crb>

### **Climate Resilient Chickpea Innovation Lab**

*Lead University:* **University of California, Davis**

This Innovation Lab brings drought and heat tolerance from wild chickpea relatives to elite chickpea lines used for production in Ethiopia while increasing the capacity of Ethiopian chickpea researchers in molecular breeding and variety characterization.

*Focus Countries:* Ethiopia, India, Turkey

*Director:* Doug Cook, [drcook@ucdavis.edu](mailto:drcook@ucdavis.edu)

### **Climate Resilient Cowpea Innovation Lab**

*Lead University:* **University of California, Riverside**

This Innovation Lab develops and applies advanced genomic tools to cowpea breeding to increase yield, drought tolerance and fungal resistance in cowpea (or black-eyed peas), a common nutritious staple in African countries.

*Focus Countries:* Burkina Faso, Ghana, Nigeria, Senegal

*Director:* Timothy Close, [timothy.close@ucr.edu](mailto:timothy.close@ucr.edu)

### **Climate Resilient Millet Innovation Lab**

*Lead University:* **University of California, Davis**

This Innovation Lab is harnessing genomic and advanced molecular tools and proprietary technologies for climate resilience from U.S.-based company Arcadia Biosciences to develop heat- and drought-tolerant millet varieties for smallholder farmers.

*Focus Countries:* India, Mali, Nigeria

*Director:* Eduardo Blumwald, [ebumwald@ucdavis.edu](mailto:ebumwald@ucdavis.edu)

### **Climate Resilient Sorghum Innovation Lab**

*Lead University:* **University of Georgia**

This Innovation Lab is using new scientific tools to develop drought- and heat-tolerant varieties of sorghum, a staple grain in many countries, which builds climate resilience into sorghum production systems. The Lab is also exploring new approaches to production through the development of perennial sorghum.

*Focus Countries:* Ethiopia, India, Mali

*Director:* Andrew Paterson, [paterson@plantbio.uga.edu](mailto:paterson@plantbio.uga.edu)

### **Climate Resilient Wheat Innovation Lab**

*Lead University:* **Washington State University**

By using conventional breeding approaches, improved breeding tools, and by leveraging genomic resources, this Innovation Lab is helping develop new wheat varieties that can withstand heat stress in the Indo-Gangetic plains.

*Focus Countries:* Bangladesh, India

*Director:* Kulvinder Gill, [ksgill@wsu.edu](mailto:ksgill@wsu.edu)

### **Food Processing and Post-Harvest Handling Innovation Lab**

*Lead University:* **Purdue University**

This Innovation Lab is working to increase access to safe and nutritious foods along the value chain by improving the drying and storage capacity of smallholder farmers and expanding market opportunities through diversified processed products that address quality in the market and nutritional needs.

*Focus Countries:* Kenya, Senegal

*Director:* Betty Bugusu, [bbugusu@purdue.edu](mailto:bbugusu@purdue.edu)

*Website:* <https://ag.purdue.edu/ipia/fpl>

### **Food Security Policy Innovation Lab**

*Lead University:* **Michigan State University**

This Innovation Lab is helping establish policies conducive to market-led, smallholder-focused, inclusive agricultural growth and food security by focusing on country-level research, capacity building, global research and support to donor food policy work.

*Focus Countries:* Burma, Mali, Malawi, Nigeria, Tanzania

*Director:* Duncan Boughton, [boughton@msu.edu](mailto:boughton@msu.edu)

*Website:* <http://fsg.afre.msu.edu/fsp/index.htm>

### **Genomics to Improve Poultry Innovation Lab**

*Lead University:* **University of California, Davis**

This Innovation Lab is working to reduce limitations to chicken production by applying advanced genetics and genomic approaches to enhance innate resistance to Newcastle disease and tolerance to heat stress in chickens in places where Newcastle disease and hot climates are prevalent.

*Focus Countries:* Ghana, Tanzania

*Director:* David Bunn, [dabunn@ucdavis.edu](mailto:dabunn@ucdavis.edu)

*Website:* <http://gip.ucdavis.edu/>

### **Grain Legumes Innovation Lab**

*Lead University:* **Michigan State University**

This Innovation Lab is developing improved grain legume varieties that are resistant to climatic stresses and disease and insect threats, enhancing soil and pest management practices, and boosting the nutritional and health status of women and young children by supporting improved access to grain legumes.

*Focus Countries:* Benin, Burkina Faso, Ghana, Guatemala, Haiti, Honduras, Malawi, Mozambique, Niger, Senegal, Tanzania, Uganda, Zambia

*Director:* Irvin Widders, [widders@anr.msu.edu](mailto:widders@anr.msu.edu)

*Website:* <http://legumelab.msu.edu/>

### **Horticulture Innovation Lab**

*Lead University:* **University of California, Davis**

This Innovation Lab is improving smallholder farmers' abilities to grow, sell and consume nutritious, high-value fruit and vegetable crops by targeting innovative technologies including postharvest handling, increasing research capacity, improving access to information and markets, and ensuring gender equity.

*Focus Countries:* Bangladesh, Cambodia, Ethiopia, Ghana, Guatemala, Honduras, Kenya, Nepal, Rwanda, Tanzania, Uganda, Zambia

*Director:* Elizabeth Mitcham, [ejmitcham@ucdavis.edu](mailto:ejmitcham@ucdavis.edu)

*Website:* <http://horticulture.ucdavis.edu/>

### **Integrated Pest Management Innovation Lab**

*Lead University:* **Virginia Polytechnic Institute and State University**

To support improved, environmentally sustainable yields for smallholder farmers through the implementation of participatory, integrated pest management programs (IPM) in horticultural and grain crops using centers of excellence for dissemination of best IPM practices and scalable solutions.

*Focus Countries:* Bangladesh, Burma, Cambodia, Ethiopia, Kenya, Nepal, Tanzania, Vietnam

*Director:* Rangaswamy "Muni" Muniappan, [rmuni@vt.edu](mailto:rmuni@vt.edu)

*Website:* <http://www.oired.vt.edu/ipmcrsp/>

### **Nutrition Innovation Labs: Africa and Asia**

*Lead University:* **Tufts University**

This Innovation Lab is identifying ways that policy and program interventions, particularly those that involve agriculture, can most effectively achieve large-scale improvements for maternal and child nutrition.

*Focus Countries:* India, Malawi, Nepal, Uganda

*Directors:* Jeffrey Griffiths, [jeffrey.griffiths@tufts.edu](mailto:jeffrey.griffiths@tufts.edu) (Africa); Patrick Webb, [patrick.webb@tufts.edu](mailto:patrick.webb@tufts.edu) (Asia)

*Website:* <http://www.nutritioninnovationlab.org/>

### **Peanut Productivity and Mycotoxin Control Innovation Lab**

*Lead University:* **University of Georgia**

This Innovation Lab is contributing to increased productivity and profitability of peanut production and improving food safety by mitigating the negative impacts of contamination of peanut and other crops from toxins produced by soil-borne fungal pathogens (known as “mycotoxins”).

*Focus Countries:* Ghana, Haiti, Malawi, Mozambique, Niger, Zambia

*Director:* Dave Hoisington, [davehois@uga.edu](mailto:davehois@uga.edu)

*Website:* <http://pmil.caes.uga.edu/>

### **Reduction of Post-Harvest Loss Innovation Lab**

*Lead University:* **Kansas State University**

This Innovation Lab is working to reduce post-harvest loss and food waste of durable staple crops (grains, oilseeds, legumes, root crops and seeds) and related process products by enabling smallholder farmers, cooperatives, agribusinesses, NGOs and other stakeholder partners improve moisture measurement, drying and storage techniques, insect and mycotoxin prevention, and market-based value chain access.

*Focus Countries:* Bangladesh, Ethiopia, Ghana, Guatemala

*Director:* Dirk Maier, [dmaier@k-state.edu](mailto:dmaier@k-state.edu)

*Website:* [www.reducePHL.org](http://www.reducePHL.org)

### **Rift Valley Fever Control in Agriculture Innovation Lab**

*Lead University:* **University of Texas, El Paso**

To help boost livestock productivity, this Innovation Lab is developing a vaccine against Rift Valley Fever, a highly infectious and deadly cattle disease, fine-tuning a novel, needle-free injection device to deliver the vaccine. The Lab is also designing a diagnostic test to help people differentiate between infected and vaccinated animals—information that is critical for exports and trade.

*Focus Country:* Tanzania

*Director:* George Bettinger, [gebettinger@utep.edu](mailto:gebettinger@utep.edu)

### **Small-Scale Irrigation Innovation Lab**

*Lead University:* **Texas A&M University**

This Innovation Lab is identifying promising small-scale irrigation technologies, practices and strategies at the farm level that can improve agricultural productivity and reduce farmer risk during the dry season.

*Focus Countries:* Ethiopia, Ghana, Tanzania

*Director:* Neville Clarke, [n-clarke@tamu.edu](mailto:n-clarke@tamu.edu)

*Website:* <http://ilssi.tamu.edu/>

### **Sorghum and Millet Innovation Lab**

*Lead University:* **Kansas State University**

This Lab is advancing biophysical and social sciences that contribute technologies and knowledge toward the enhancement of adaptation, resilience and profitability of sorghum- and millet-based production systems and value chains.

*Focus Countries:* Ethiopia, Niger, Senegal

*Director:* Timothy Dalton, [tdalton@ksu.edu](mailto:tdalton@ksu.edu)

*Website:* <http://www.k-state.edu/smil/>

### **Soybean Value Chain Research Innovation Lab**

*Lead University:* **University of Illinois**

This Innovation Lab is contributing to increased productivity of smallholder soy farmers by advancing improved varieties, supporting local best production practices, enhancing processing technologies, and promoting development of the soy value chain.

*Focus Countries:* Ethiopia, Ghana, Malawi, Mozambique, Zambia

*Director:* Peter Goldsmith, [pgoldsmi@illinois.edu](mailto:pgoldsmi@illinois.edu)

*Website:* <http://soybeaninnovationlab.illinois.edu/>

### **Sustainable Intensification Innovation Lab**

*Lead University:* **Kansas State University**

This Innovation Lab focuses on integrated farming systems research and technologies to sustainably increase agricultural productivity and income that provide food security and nutrition to smallholder farmers.

*Focus Countries:* Bangladesh, Burma, Ethiopia, Ghana, Senegal, Tanzania

*Director:* Vara Prasad, [vara@ksu.edu](mailto:vara@ksu.edu)

*Future Website:* [www.k-state.edu/siil](http://www.k-state.edu/siil)